Page 67, after the last line, beginning on a new page, please insert the attached substitute Sequence Listing.

IN THE CLAIMS

Please cancel Claims 1-25 and add the following claims.

--26. (New) A DNA which encodes a protein having transglutaminase activity, wherein the amino acid sequence of the protein comprises the serine residue at the second position to proline residue at the 331st position of the amino acid sequence of SEQ ID NO: 1, wherein the N-terminal amino acid of the protein is the serine residue at the second position of SEQ ID NO: 1.

27. (New) The DNA of Claim 26, wherein the amino acid sequence of the protein consists of the serine residue at the second position to proline residue at the 331st position of the amino acid sequence of SEQ ID NO: 1.

28. (New) The DNA of Claim 26, wherein the base sequence encoding for Arg at the forth position from the N-terminal amino acid is CGT or CGC, and the base sequence encoding for Val at the fifth position from the N-terminal amino acid is GTT or GTA.

29. (New) The DNA of Claim 28, wherein the base sequence encoding for from the N-terminal amino acid to the fifth amino acid, Ser-Asp-Asp-Arg-Val, has the following sequence:

Ser: TCT or TCC,

Asp: GAC or GAT,

Asp: GAC or GAT,

Arg: CGT or CGC, and

Val: GTT or GTA.

30. (New) The DNA of Claim 29, wherein the base sequence encoding for an amino acid sequence of from the N-terminal amino acid to the fifth amino acid, Ser-Asp-Asp-Arg-Val, has the sequence TCT-GAC-GAT-CGT-GTT.

31. (New) The DNA of Claim 29, wherein the base sequence encoding for an amino acid sequence of from the sixth amino acid to the ninth amino acid from the N-terminal amino acid, Thr-Pro-Pro-Ala, has the following sequence:

Thr: ACT or ACC,

Pro: CCA or CCG,

Pro: CCA or CCG, and

Ala: GCT or GCA.

32. (New) The DNA of Claim 30, wherein the base sequence encoding for an amino acid sequence of from the sixth amino acid to the ninth amino acid from the N-terminal amino acid, Thr-Pro-Pro-Ala, has the following sequence:

Thr: ACT or ACC,

Pro: CCA or CCG,

Pro: CCA or CCG, and

Ala: GCT or GCA.

33. (New) A DNA comprising a nucleotide sequence ranging from the thymine base at the fourth position to the guanine base at the 993rd position of the nucleotide sequence of SEQ ID NO: 2.

34. (New) A DNA consisting of a nucleotide sequence ranging from the thymine base at the fourth position to the guanine base at the 993rd position of the nucleotide sequence of SEQ ID NO: 2.

35. (New) A recombinant DNA comprising the DNA of Claim 26.

36. (New) A recombinant DNA having a DNA of Claim 28.

37. (New) A recombinant DNA having a DNA of Claim 29.

38. (New) The recombinant DNA of Claim 35, further comprising a promoter selected from the group consisting of trp, tac, lac, trc, λPL and T7.

39. (New) The recombinant DNA of Claim 36, further comprising a promoter selected from the group consisting of trp, tac, lac, trc, λPL and T7.

40. (New) The recombinant DNA of Claim 37, further comprising a promoter selected from the group consisting of trp, tac, lac, trc, λPL and T7.

41. (New) A procaryotic microorganism transformed with the recombinant DNA of Claim 35..

42. (New) The transformed procaryotic microorganism of Claim 41, which is *Escherichia coli*.

43. (New) The transformed *Escherichia coli* of Claim 42, which is transformed with a multi-copy vector.

44. (New) The transformed *Escherichia coli* of Claim 42, wherein the *Escherichia coli* is the JM109 strain.

45. (New) A process for producing a protein having a transglutaminase activity, comprising culturing the transformed procaryotic microorganism of Claim 41 in a medium to produce the protein having the transglutaminase activity, and recovering the protein.

46. (New) A process for producing a protein having a transglutaminase activity, comprising culturing the transformed *Escherichia coli* of Claim 42 in a medium to produce the protein having the transglutaminase activity, and recovering the protein.

47. (New) A process for producing a protein having a transglutaminase activity, comprising culturing the transformed *Escherichia coli* of Claim 43 in a medium to produce the protein having the transglutaminase activity, and recovering the protein.

48. (New) A process for producing a protein having a transglutaminase activity, comprising culturing the transformed *Escherichia coli* of Claim 44 in a medium to produce the protein having the transglutaminase activity, and recovering the protein.

49. (New) A DNA which codes for a protein having transglutaminase activity and comprising an amino acid sequence represented by SEQ ID No. 1, wherein the base sequence coding for Arg at the fifth position from the N-terminal amino acid is CGT or CGC, and the base sequence coding for Val at the sixth position from the N-terminal amino acid is GTT or GTA.

50. (New) The DNA of claim 49, wherein the base sequence coding for an amino acid sequence of from the second amino acid to the sixth amino acid from the N-terminal amino acid, Ser-Asp-Asp-Arg-Val (SEQ ID NO:1, residues 2-6), has the following sequence:

Ser: TCT or TCC

Asp: GAC or GAT

Asp: GAC or GAT

Arg: CGT or GCG

Val: GTT or GTA.

51. (New) The DNA of claim 51, wherein the base sequence coding for an amino acid sequence of from the second amino acid to the sixth amino acid from the N-terminal amino acid, Ser-Asp-Asp-Arg-Val (SEQ ID NO:1, residues 2-6), has the sequence TCT-GAC-GAT-CGT-GTT (SEQ ID NO:2, bases 4-18).

52. (New) The DNA of claim 50, wherein the base sequence coding for an amino acid sequence of from the seventh amino acid to the tenth amino acid from the N-terminal amino acid, Thr-Pro-Pro-Ala (SEQ ID NO:1, residues 4-7), has the following sequence:

Thr: ACT or ACC

Pro: CCA or CCG

Pro: CCA or CCG

Ala: GCT or GCA.

53. (New) The DNA of claim 51, wherein the base sequence coding for an amino acid sequence of from the seventh amino acid to the tenth amino acid from the N-terminal amino acid, Thr-Pro-Pro-Ala (SEQ ID NO:1, residues 4-7), has the following sequence:

Thr: ACT or ACC

Pro: CCA or CCG

Pro: CCA or CCG

Ala: GCT or GCA.--

SUPPORT FOR THE AMENDMENTS

Newly added Claims 26-48 are supported by the specification at pages 5-63 and by Claims 1-25 as originally filed. Newly added Claims 49-53 are supported by original Claims 5-8, except that the N-terminal amino acid is Asp. This is supported by SEQ ID NO: 1 of the present application where Asp is the first amino acid. No new matter is believed to have been added to this application by these amendments.